Lab 5: Endangered creatures

You have just returned from a trip to the Amazon where you have discovered two new species of reptile. One is a vile, carnivorous, cylindrical-shaped monstrosity known as a ***Carnocylinder***, which feeds on dogs, cats, and people. The other is an herbivorous, tame, cylindrical-shaped creature known as a ***Herbicylinder.*** The Herbicylinder mimics the Carnocylinder so that predators will leave it alone, and as you can see, it is hard to distinguish between them. You would like to market the Herbicylinder as a domestic pet and sell the Carnocylinder to the Department of Defense.

Now, you have acquired three of these creatures, but you don't know which species each one is. Since these creatures are rare and difficult to find, it will be necessary to separate the Carnocylinders from the Herbicylinders so that none will be eaten.

In this lab each group of students will test three of the cylinder creatures and determine if they belong to the same species or a different species. **These are very fragile endangered creatures, so you must be extremely careful with them.   If you treat one of the cylinders too roughly, it will have "died", and your TA will take it away from you and you will not be able to take any more data with it.**

Question:

Do your three cylinders belong to the same species or to different species?
Two points will depend on your answer.

I. Introduction   **10 min**   **Whole class**

II. Brainstorm and plan   **15 min**   **Groups of 4**

III. Carry out the experiment and analysis   **45 min**   **Groups of 4**

Come up with a visual representation of your data that helps to show whether your cylinders are the same or different.

IV. Group presentations   **35 min**   **Whole Class**

The rest of the class's data may well influence your interpretation of your own results.

V. Evaluate   **15 min**   **Groups of 4**

As you evaluate your experiment and your analysis, distinguish between variation that comes from the measurement process and variation that is caused by something internal to the system that is measured. Which detracts from your conclusions, and which is just the way life is? *Turn in your lab report.*

MAJOR GOALS:
- *Devise a visual representation that clarifies comparisons of data sets.*
- *Make a case for which characteristics are necessary to allow an outlying data point to be discarded.*
- *Combine data sets from different experiments in a meaningful and valid manner to reach a well-supported conclusion.*